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Declarations under Rule 4.17:

— *as to the identity of the inventor (Rule 4.17(i)) for the following designations* AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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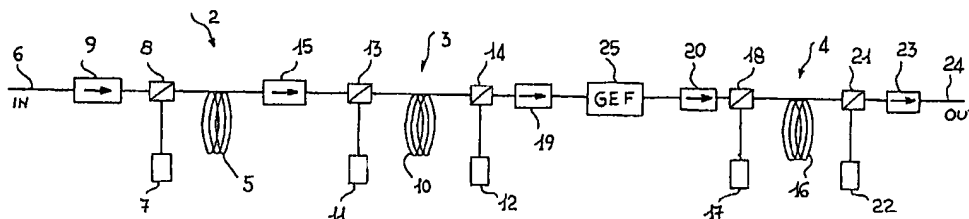
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(54) Title: MULTI-STAGE OPTICAL AMPLIFIER OPTIMIZED WITH RESPECT TO NOISE, GAIN AND BANDWIDTH



(57) Abstract: The present invention relates to a multi-stage optical amplifier for a fiber-optic transmission system, in particular to an amplifier having a multi-stage configuration that allows an optimization of its performance with respect to noise, gain and bandwidth. The multi-stage amplifier of the invention comprises a first amplifying stage (2) including a rare-earth doped optical active fiber (5); a second amplifying stage (3) connected to the first amplifying stage (2), the second amplifying stage (3) including a tellurite-based active fiber (10) doped with a rare earth element; and a third amplifying stage (4) connected with the second amplifying stage (3), the third amplifying stage (4) including a silica-based fiber (14; 30).

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